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CCD MINIMA FOR SELECTED ECLIPSING BINARIES IN 2016

NELSON, R. H.

1393 Garvin Street, Prince George, BC, Canada, V2M 3Z1 e-mail: bob.nelson@shaw.ca

Observatory and telescope:

Sylvester Robotic Observatory (SyRO): 33 cm f/4.5 Newtonian on a Paramount ME

Detector:	SyRO: SBIG ST-10XME, 6.8'' pixels, 34.4'×23.2' FOV, -10 < T < -30° C
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Method of data reduction:

Bias and dark subtraction, flat-fielding using light-box flats; aperture photometry—all using MIRA, by Mirametrics. Check stars were used throughout.

Method of minimum determination:

Digital tracing paper method, bisection of chords, curve fitting, and (occasionally) Kwee and van Woerden (1956)
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Times of minima:						
Star name	Time of min. HJD 2400000+	Error	Type	Filter	$O - C$ [day]	Rem.
QX And	57734.6099	0.0002	I	c	0.0016	
V0527 And	57654.7928	0.0003	I	c	0.0020	
V1747 Aql	57521.9096	0.0003	I	c	0.0023	
SS Ari	57699.6733	0.0003	I	R	-0.0061	
BN Ari	57702.6294	0.0003	I	VRI	-0.0003	
BN Ari	57707.5698	0.0007	II	VRI	0.0006	
BN Ari	57707.7187	0.0002	I	VRI	-0.0002	
BN Ari	57728.6745	0.0005	I	VRI	-0.0001	
BN Ari	57729.5727	0.0003	I	VRI	-0.0000	
BN Ari	57730.621	0.0002	II	VRI	0.0005	
V0410 Aur	57738.5905	0.0002	I	R	0.0000	
V0644 Aur	57734.74	0.0002	I	c	-0.0001	
TY Boo	57477.829	0.0002	I	c	-0.0006	
TZ Boo	57439.8916	0.0002	I	R	0.0007	
TZ Boo	57753.1011	0.0003	II	R	0.0020	
CK Boo	57498.7485	0.0008	I	c	-0.0047	
GI Boo	57514.7897	0.0002	I	c	0.0033	
GN Boo	57476.8355	0.0001	I	c	-0.0059	
GQ Boo	57439.988	0.0004	II	c	-0.0019	
GQ Boo	57498.8367	0.0002	II	c	-0.0030	
GR Boo	57465.8222	0.0003	II	c	-0.0005	
GR Boo	57492.7537	0.0003	I	c	-0.0008	
GS Boo	57463.8021	0.0003	II	c	0.0009	
HH Boo	57487.7804	0.0002	I	c	-0.0024	
HH Boo	57499.7308	0.0002	II	c	-0.0019	
IK Boo	57497.7395	0.0002	I	c	-0.0079	
QT Boo	57493.788	0.002	I	c	-0.0035	
AO Cam	57672.798	0.0002	II	c	-0.0008	
CV Cam	57747.622	0.0002	II	R	0.0003	
LR Cam	57671.9582	0.0001	I	R	0.0048	
NR Cam	57707.8518	0.0003	II	c	-0.0006	
NX Cam	57739.6351	0.0006	II	c	0.0004	
V0337 Cam	57736.5865	0.0003	I	R	-0.0005	
V0383 Cam	57625.9666	0.0003	II	c	-0.0002	
V0403 Cam	57737.7574	0.0003	II	c	0.0014	
V0474 Cam	57729.8173	0.0003	II	c	-0.0008	
G3715-0043 Cam	57739.6261	0.0006	0	c	0.0000	
TW Cas	57619.9773	0.0002	I	VRI	0.0020	
ZZ Cas	57617.8966	0.0001	I	c	0.0025	
BS Cas	57615.8603	0.0001	I	c	0.0001	
EY Cas	57637.8343	0.0002	I	c	-0.0028	
IR Cas	57672.6806	0.0002	I	VRI	-0.0002	
IR Cas	57673.7035	0.0002	II	VRI	0.0017	
V0375 Cas	57625.8179	0.0001	I	R	-0.0034	
V1063 Cas	57645.8468	0.0002	II	c	0.0004	
V1139 Cas	57483.7239	0.0002	II	c	0.0005	
V0736 Cep	57619.7376	0.0006	I	VRI	-0.0004	
G4500-0730 Cep	57661.635	0.0002	II	c	0.0001	

Times of minima:						
Star name	Time of min. HJD 2400000+	Error	Type	Filter	$O - C$ [day]	Rem.
BX CMi	57425.6877	0.0002	I	R	0.0005	
DS CMi	57441.6687	0.0005	I	c	0.0003	
EH Cnc	57730.9149	0.0001	II	c	0.0018	
IU Cnc	57463.6988	0.0002	I	c	0.0051	
G1936-0040 Cnc	57738.8988	0.0002	II	c	0.0002	
UX CVn	57454.7799	0.0003	I	c	-0.0012	
DH CVn	57723.9964	0.0006	II	c	-0.0001	
DR CVn	57480.7116	0.0005	II	VRI	-0.0074	
DX CVn	57443.9182	0.0002	II	c	0.0008	
EL CVn	57476.713	0.002	I	R	-0.0006	
FV CVn	57433.9306	0.0003	II	c	-0.0002	
G2530-1069 CVn	57747.0468	0.0002	I	c	0.0007	
RW Com	57425.8104	0.0004	I	c	-0.0008	
RZ Com	57478.7858	0.0001	I	R	0.0046	
SS Com	57479.7958	0.0003	II	c	0.0002	
CM Com	57477.722	0.0003	I	c	-0.0018	
AS CrB	57441.9686	0.0002	II	c	0.0044	
AV CrB	57478.8942	0.0001	I	c	-0.0020	
V0401 Cyg	57487.9323	0.0002	I	c	-0.0070	
V0687 Cyg	57510.9305	0.0001	I	c	-0.0030	
V0859 Cyg	57530.8584	0.0002	II	c	0.0009	
V2197 Cyg	57514.918	0.0001	I	c	-0.0008	
V2282 Cyg	57510.839	0.0002	II	c	-0.0000	
V2364 Cyg	57498.9433	0.0006	I	c	-0.0016	
V2477 Cyg	57499.9633	0.0001	I	R	-0.0001	
BV Dra	57463.9201	0.0003	I	V	-0.0005	
BW Dra	57463.8751	0.0005	II	V	0.0019	
EF Dra	57515.7979	0.0005	I	c	0.0025	
GQ Dra	57483.8383	0.0002	I	V	0.0006	
IV Dra	57492.8669	0.0004	II	c	0.0056	
V0415 Dra	57492.9764	0.0004	I	c	-0.0030	
G3870-1172 Dra	57448.8752	0.0002	II	c	0.0009	
G3870-1172 Dra	57497.8737	0.0001	II	R	0.0015	
G3881-0579 Dra	57465.9382	0.0001	II	c	0.0007	
G3929-1500 Dra	57522.817	0.0002	II	c	-0.0013	
G4215-1480 Dra	57480.8837	0.0002	I	c	0.0000	
G4439-1124 Dra	57499.8687	0.0004	I	c	0.0055	
G4439-1124 Dra	57516.7866	0.0008	II	c	0.0011	
V0415 Gem	57734.8607	0.0004	II	c	-0.0004	
G1886-1869 Gem	57738.765	0.0005	I	c	-0.0007	
V1036 Her	57521.8043	0.0002	II	c	0.0018	
V1067 Her	57479.9096	0.0002	II	c	-0.0001	
V1103 Her	57475.863	0.0003	I	c	-0.0006	
V1167 Her	57475.9724	0.0004	I	R	0.0027	
V1198 Her	57524.8347	0.0003	I	c	0.0026	
V1284 Her	57513.8723	0.0001	I	c	0.0001	
V1286 Her	57493.8911	0.0002	I	c	-0.0050	
V1289 Her	57511.9014	0.0001	I	c	-0.0005	

Times of minima:						
Star name	Time of min. HJD 2400000+	Error	Type	Filter	$O - C$ [day]	Rem.
V1302 Her	57522.912	0.0003	I	c	0.0010	
V1333 Her	57481.9646	0.0001	II	c	0.0001	
SW Lac	57674.6566	0.0002	I	R	0.0022	
UZ Leo	57731.003	0.0001	II	V	0.0032	
ET Leo	57738.9741	0.0003	II	R	0.0005	
XX LMi	57454.6765	0.0003	I	c	-0.0019	
AG LMi	57442.6695	0.0002	I	c	0.0001	
SW Lyn	57735.8821	0.0002	I	c	0.0031	
CL Lyn	57735.7652	0.0003	I	c	-0.0007	
DE Lyn	57728.7772	0.0003	II	c	-0.0019	
FO Lyn	57728.9316	0.0002	II	c	0.0001	
PY Lyr	57508.964	0.002	I	c	0.0000	
V0563 Lyr	57481.8633	0.0002	I	c	-0.0004	
V0579 Lyr	57477.927	0.001	I	c	-0.0016	
V0653 Lyr	57476.9573	0.0001	I	c	0.0003	
V0927 Mon	57737.8363	0.0003	II	c	0.0000	
V0508 Oph	57497.965	0.0002	II	R	0.0030	
V2713 Oph	57480.9854	0.0003	I	c	0.0005	
V0517 Ori	57747.778	0.002	I	c	0.0004	
V1833 Ori	57746.7359	0.0005	I	c	-0.0004	
V1848 Ori	57389.684	0.0002	I	c	0.0012	
V2762 Ori	57730.794	0.0002	I	I	-0.0003	
DK Peg	57646.8229	0.0003	I	c	0.0022	
V0523 Peg	57637.7164	0.0002	II	c	0.0002	
V0535 Peg	57624.7678	0.0003	I	c	0.0047	
V0576 Peg	57615.7732	0.0002	I	c	-0.0012	
V0619 Peg	57624.8949	0.0002	I	R	0.0005	
RT Per	57618.8972	0.0001	I	c	0.0014	
RT Per	57646.928	0.0001	I	c	0.0016	
V0881 Per	57626.8723	0.0002	II	c	-0.0013	
DZ Psc	57653.8041	0.0003	I	c	0.0052	
HL Psc	57731.5992	0.0005	II	c	-0.0065	
HO Psc	57742.5931	0.0004	II	c	0.0009	
V0384 Ser	57513.7615	0.0001	I	c	-0.0025	
AH Tau	57635.9722	0.0008	II	c	-0.0019	
EQ Tau	57737.6095	0.0002	II	c	-0.0005	
V0781 Tau	57751.6673	0.0002	I	R	-0.0016	
V1241 Tau	57672.867	0.002	II	VRI	-0.0056	
V1332 Tau	57742.7253	0.0005	II	c	-0.0013	
XY UMa	57427.7634	0.0003	II	R	-0.0005	
AA UMa	57707.9965	0.0001	I	c	0.0042	
HH UMa	57437.744	0.0002	II	R	0.0014	
LP UMa	57453.716	0.0004	I	c	-0.0045	
MQ UMa	57746.8928	0.0002	I	c	0.0088	
MT UMa	57735.9896	0.0005	I	c	-0.0005	
NU UMa	57448.8067	0.0003	I	V	0.0009	
G4386-0604 UMa	57747.9238	0.0002	I	R	-0.0041	
KN Vul	57516.9138	0.0003	I	c	0.0004	

Remarks:

To save space, GSC star names have been shortened to a leading “G” only; times of minimum are heliocentric Julian dates with the leading 24 removed. $O - C$ values were computed using elements computed from the $O - C$ database listed in the references (Nelson, 2016).

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References:

- Danko, A., Clear Sky Charts, <http://cleardarksky.com/>
Kwee, K.K., & van Woerden, H., 1956, B.A.N. 12, 327
Nelson, R.H. 2016, Bob Nelson’s O-C Files, <http://www.aavso.org/bob-nelsons-o-c-files>
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